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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,696	05/25/2006	Winfried Esser	2003P10441WOUS	5436
22116 7590 09/29/2008 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830				
EXAMINER				
WONGWIAN, PHUTTHIWAT				
ART UNIT		PAPER NUMBER		
3746				
MAIL DATE		DELIVERY MODE		
09/29/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/580,696

**Applicant(s)**

ESSER, WINFRIED

**Examiner**

PHUTTHIWAT WONGWAN

**Art Unit**

3746

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-38 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 19-38 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 05/25/2006  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Preliminary Amendment***

1. This office action is responsive to the preliminary amendment filed on 05/25/2005. As directed the amendment, claims 1-18 have been canceled and new claims 19-38 have been added. Thus, claims 19-38 are presently pending in this application.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 19 recites the limitation "the superalloy" in line 9. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 21 and 22 recite the limitation "the alloy" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Objections***

6. Claim 36 is objected to because of the following informalities: the symbol " $\gamma$ " should be deleted and changed to "gamma". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 19-31 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinari (US Patent No. 5,611,670) in view of Park (Pub. No. 20030171216).

9. As to claims 19-31 and 36-37, Yoshinari discloses a high temperature gas turbine component comprising: a root section (fig. 1, the part that in contact with 15); a platform section 15 (fig. 1) arranged adjacent to the root section; a tip section 17 (fig. 1) arranged radially opposite the root section; a leading edge 1 (fig. 1) arranged between the platform and tip sections; a trailing edge 23 (fig. 1) arranged downstream of the leading edge; and a main section (fig. 1 between 1 and 23) arranged between the leading edge, trailing edge, platform section and tip sections, the high temperature gas turbine component is a turbine blade (fig. 1) wherein the precipitation is the gamma phase (col. 2, line 65) and a nickel-base super alloy comprises of a Ni-base superalloy having the following suitable composition by weight %, up to 0.20% C, 5 to 14% Cr, 4 to 7% Al, 2 to 15% W, 0.5 to 5% Ti, up to 3% Nb, up to 6% Mo, up to 12% Ta, up to 10% Co, up to 2% Hf, up to 4% Re, up to 0.035% B, up to 0.035% Zr, and the balance of 58% or more Ni (col. 3, line s 7-12 and 35-55. Yoshinari does not disclose the exact

same proportions of the alloy as claimed and the superalloy is precipitation strengthened by the addition of 50-2000 ppm, up to 1100 ppm, 100-500 ppm and 75-2000 ppm of a strength promoter that increases the strength of the component by increasing the formation of precipitants where the strength promoter is selected from the group consisting of: zinc (Zn), tin (Sn), lead (Pb), gallium (Ga), calcium (Ca), selenium (Se), arsenic (As), bismuth (Bi), neodymium (Nd), and praseodymium (Pr). However, Park teaches the promoter or dopants are selected from the group consisting of indium, gallium, tin, silver, germanium, gold, nickel, cobalt, copper, iron, manganese, molybdenum, chromium, cerium, and vanadium (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Yoshinari's invention such that the alloy has exact same proportions as claimed since the alloy proportions disclosed by Yoshinari overlap the instantly claimed proportions and also it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Yoshinari's invention to include the superalloy is precipitation strengthened by the addition of 50-2000 ppm, up to 1100 ppm, 100-500 ppm and 75-2000 ppm of a strength promoter that increases the strength of the component by increasing the formation of precipitants where the strength promoter is selected from the group consisting of gallium, as suggested and taught by Park, for the purpose of providing a suitable thermal barrier for the turbine blades which exposes to the high temperature, thereby extending the life of the turbine and also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select any portion of the superalloy and to add the strength promoter of 50-2000 ppm,

up to 1100 ppm, 100-500 ppm and 75-2000 ppm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

10. As to claim 38, Yoshinari discloses a gas turbine engine, comprising: a rotationally mounted rotor (fig. 7, turbine) arranged coaxially with the longitudinal axis of the engine; an intake housing 39 (fig. 7) arranged coaxially with the rotor that intakes a working fluid; a compressor (fig. 7, compressor) that compresses the working fluid; an annular combustion chamber (fig. 7, combustor) comprised of a plurality of components that accepts the compressed working fluid, mixes a fuel with the compressed working fluid and combusts the compressed working fluid and fuel mixture to create a hot working fluid; and a turbine section 43 (fig. 7) that expands the hot working fluid, wherein at least one combustion chamber or turbine component is formed from a nickel, cobalt or iron superalloy (col. 3, line 6, "Ni-base superalloy") but does not that the alloy is precipitation strengthened by the addition of 50 ppm to 2000 ppm of a strength promoter from the group consisting of: zinc (Zn), tin (Sn), lead (Pb), gallium (Ga), calcium (Ca), selenium (Se), arsenic (As), bismuth (Bi), neodymium (Nd), and praseodymium (Pr). However, Park teaches the promoter or dopants are selected from the group consisting of indium, gallium, tin, silver, germanium, gold, nickel, cobalt, copper, iron, manganese, molybdenum, chromium, cerium, and vanadium (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Yoshinari's invention to include the superalloy is precipitation strengthened by the addition of 50-2000 ppm of a strength promoter that

increases the strength of the component by increasing the formation of precipitants where the strength promoter is selected from the group consisting of gallium, as suggested and taught by Park, for the purpose of providing a suitable thermal barrier for the turbine blades which exposes to the high temperature, thereby extending the life of the turbine and also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the strength promoter of 50-2000 ppm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinari in view of Park and further in view of Satek (Pub. No. 20040131984).

12. As to claims 32-33, Yoshinari's modified invention discloses the essential features of the claim invention except the ruthenium content is 0.5-5 and 1.3-3 percent by weight. However, Satek teaches the combustor comprises group VIII metal such as ruthenium. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yoshinari's invention to include ruthenium content is 0.5-5 and 1.3-3 percent by weight, for the purpose of enhancing the performance of the turbine blade by increasing strength and also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select any portion of the ruthenium for the turbine blade, since it has been held that where the general conditions

of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

13. As to claims 34-35, Yoshinari discloses the component material has directionally solidified (col. 2, line 45-60) wherein the component is a gas turbine blade (fig. 1).

### ***Conclusion***

Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F. R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims "define a patentable invention" without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, "The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims." Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUTTHIWAT WONGWIEN whose telephone number is 571-270-5426. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm EST.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KRAMER C. DEVON can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. W./  
Examiner, Art Unit 3746

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
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